Amendments to the Claims:

Claims 1-61 are pending in this application. Claims 9-29 and 37-61 have been withdrawn from consideration. Of the remaining claims for consideration (i.e., claims 1-8 and 30-36), claims 1 and 30 are independent.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (CURRENTLY AMENDED): An image sensing apparatus comprising:

an image sensing device;

an A/D conversion unit configured to convert an analogue image signal outputted by said image sensing device into a digital signal;

a color interpolation unit configured to perform color interpolation on the digital signal converted by said A/D conversion unit and generate ~~generating~~ image data on a plurality of color planes;

a gamma conversion unit configured to perform a gamma conversion on the image data generated by said color interpolation unit;

a color space conversion unit configured to convert a color space of the plurality of color planes of the image data converted by said gamma conversion unit, to a color space of another colorimetric system;

a pseudo color removing unit configured to reduce a color component generated by said color interpolation unit, by controlling a color difference signal converted by said color space conversion unit, so that pseudo color components of the image data are reduced;

a thinning unit configured to thin the image data in which the pseudo color components are reduced by said pseudo color removing unit, wherein the thinning process complies with a predetermined compression method; and

a compression unit configured to compress the image data in which the ratio of the color components are changed by said thinning unit and the pseudo color components are reduced by said pseudo color removing unit, wherein said compression unit compresses the image data according to the predetermined compression method,

wherein said color space conversion unit is arranged between said gamma conversion unit and said pseudo color removing unit, and said thinning unit is arranged between said pseudo color removing unit and said compression unit.

2 (PREVIOUSLY PRESENTED): The image sensing apparatus according to claim 1, wherein said pseudo color removing unit includes an isolated point removing filter which replaces a value of a pixel of interest with a substantial median pixel value of peripheral pixels of the pixel of interest.

3 (ORIGINAL): The image sensing apparatus according to claim 2, wherein said isolated point removing filter includes a median value filter or median filter.

4 (PREVIOUSLY PRESENTED): The image sensing apparatus according to claim 1, wherein said color interpolation unit generates image data in R, G and B planes.

5 (PREVIOUSLY PRESENTED): The image sensing apparatus according to claim 1, wherein said color space conversion unit converts RGB color space to YUV color space.

6 (PREVIOUSLY PRESENTED): The image sensing apparatus according to claim 1, wherein said color space conversion unit converts RGB color space to Y, R-Y, B-Y color space.

7 (PREVIOUSLY PRESENTED): The image sensing apparatus according to claim 1, wherein said color space conversion unit converts RGB color space to G, R-G, B-G color space.

8 (PREVIOUSLY PRESENTED): The image sensing apparatus according to claim 1, further comprising a focusing unit for focusing into an image on said image sensing device, wherein said focusing unit includes an infrared ray filter, or an infrared ray filter and optical low pass filter.

9 (WITHDRAWN): An image sensing apparatus comprising:

an image sensing device;

focusing means for focusing into an image on said image sensing device;

A/D conversion means for converting an image signal outputted by said image sensing device into a digital signal;

color interpolation means for performing color interpolation on the digital signal converted by said A/D conversion means and generating image data on a plurality of color planes;

pseudo color removing means for reducing a color component included in image data, on which color interpolation is performed by said color interpolation means;

color space conversion means for converting a color space of the plurality of color planes, where the color component-is reduced by said pseudo color removing means, to a color space of another colorimetric system; and

compression means for compressing image data where color space is converted by said color space conversion means.

10 (WITHDRAWN): The image sensing apparatus according to claim 9, wherein said pseudo color removing means comprises:

first color space conversion means for converting a color space of the plurality of color planes to a color space of another colorimetric system;

isolated point removing means for reducing an isolated pseudo color component by controlling signals except a luminance component signal of the colorimetric system converted by said first color space conversion means; and

second color space conversion means for converting the color space, converted by said first color space conversion means, to an original color space.

11 (WITHDRAWN): The image sensing apparatus according to claim 10, wherein said isolated point removing means includes an isolated point removing filter which replaces a value of a pixel of interest with a substantial median pixel value of peripheral pixels of the pixel of interest.

12 (WITHDRAWN): The image sensing apparatus according to claim 11, wherein said isolated point removing filter includes a median value filter or median filter.

13 (WITHDRAWN): The image sensing apparatus according to claim 10, wherein said color interpolation means generates image data in R, G and B planes.

14 (WITHDRAWN): The image sensing apparatus according to claim 11, wherein said first color space conversion means converts RGB color space to L*a*b* color space, and said isolated

point removing means causes the isolated point removing filter to filter a frequency range of a* and b* signals.

15 (WITHDRAWN): The image sensing apparatus according to claim 10, wherein said color space conversion means converts RGB color space to YUV color space.

16 (WITHDRAWN): An image sensing apparatus comprising:

an image sensing device;

focusing means for focusing into an image on said image sensing device;

A/D conversion means for converting an image signal outputted by said image sensing device into a digital signal;

color interpolation means for performing color interpolation on the digital signal converted by said A/D conversion means and generating image data on a plurality of color planes;

separation means for separating the image data in the plurality of color planes into luminance data and color difference data;

extraction means for extracting a high frequency component from the luminance data separated by said separation means; and

pseudo color removing means for reducing a color component generated by said color interpolation means, in accordance with the high frequency component of the luminance data extracted by said extraction means and hue data obtained from the color difference data.

17 (WITHDRAWN): The image sensing apparatus according to claim 16, wherein said pseudo color removing means comprises:

determination means for determining whether or not the high frequency component of the luminance data and the hue data fall within a color range of the pseudo color; and

means for reducing a value of the color difference data, determined to be within the color range by said determination means.

18 (WITHDRAWN): An image sensing apparatus comprising: an image sensing device;

focusing means for focusing into an image on said image sensing device;

A/D conversion means for converting an image signal outputted by said image sensing device into a digital signal;

color interpolation means for performing color interpolation on the digital signal converted by said A/D conversion means and generating image data on a plurality of color planes;

color space conversion means for converting a color space of the plurality of color planes to a color space of another colorimetric system;

separation means for separating image data in the color space of another colorimetric system into luminance data and hue data;

extraction means for extracting a high frequency component from the luminance data separated by said separation means; and

pseudo color removing means for reducing a color component generated by said color interpolation means, in accordance with the high frequency component of the luminance data extracted by said extraction means and the hue data.

19 (WITHDRAWN): The image sensing apparatus according to claim 18, wherein said pseudo color removing means comprises:

determination means for determining whether or not the high frequency component of the luminance data and the hue data fall within a color range of the pseudo color; and

means for reducing a value of the color difference data, determined to be within the color range by said determination means.

20 (WITHDRAWN): The image sensing apparatus according to claim 18, wherein said color space conversion means converts the color space to YW, or Y, R-Y, B-Y, or G, R-G, B-G color space.

21 (WITHDRAWN): The image sensing apparatus according to claim 18, further comprising a low pass filter for removing a high frequency component from a color signal, from which a pseudo color is removed by said pseudo color removing means.

22 (WITHDRAWN): The image sensing apparatus according to claim 18, wherein the color range of a pseudo color includes a color area from red to yellow, and a color area from blue to cyan.

23 (WITHDRAWN): The image sensing apparatus accord:

claim 18, further comprising isolated point removing means for removing an isolated pixel from a hue signal, from which the pseudo color is removed by said pseudo color removing means.

24 (WITHDRAWN): The image sensing apparatus according to claim 23, wherein said isolated point removing means includes a median filter.

25 (WITHDRAWN): An image sensing apparatus comprising: an image sensing device;

focusing means for focusing into an image on said image sensing device;

A/D conversion means for converting an image signal outputted by said image sensing device into a digital signal;

color interpolation means for performing color interpolation on the digital signal converted by said A/D conversion means and generating image data on a plurality of color planes;

color space conversion means for converting a color space of the plurality of color planes to a color space of another colorimetric system;

separation means for separating image data in the color space of another colorimetric system into luminance data and hue data;

extraction means for extracting a high frequency component from the luminance data separated by said separation means;

isolated point removing means for removing an isolated pixel based on the hue data separated by said separation means; and

pseudo color removing means for reducing a color component generated by said color interpolation means, in accordance with the high frequency component of the luminance data extracted by said extraction means and the hue data from which an isolated pixel is removed by said isolated point removing means.

26 (WITHDRAWN): The image sensing apparatus according to claim 25, wherein said pseudo color removing means comprises:

determination means for determining whether or not the high frequency component of the luminance data and the hue data fall within a color range of the pseudo color component; and

means for reducing a value of the color difference data, determined to be within the color range by said determination means.

27 (WITHDRAWN): The image sensing apparatus according to claim 25, wherein said color space conversion means converts the color space to YUV, or Y, R-Y, B-Y, or G, R-G, B-G color space.

28 (WITHDRAWN): The image sensing apparatus according to claim 25, further comprising a low pass filter for removing a high frequency component from a color signal, from which a pseudo color is removed by said pseudo color removing means.

29 (WITHDRAWN): The image sensing apparatus according to claim 25, wherein the color range of the pseudo color includes a color area from red to yellow, and a color area from blue to cyan.

30 (CURRENTLY AMENDED): An image processing method for an image sensing apparatus which includes an image sensing device and generates an image signal corresponding to an image formed on the image sensing device, comprising:

an A/D conversion step of converting an analogue image signal outputted by the image sensing device into a digital signal;

a color interpolation step of performing color interpolation on the digital signal converted in said A/D conversion step and generating image data on a plurality of color planes;

a gamma conversion step of performing a gamma conversion on the image data generated in said color interpolation step;

a color space conversion step of converting a color space of the plurality of color planes of the image data converted in said gamma conversion step, to a color space of another colorimetric system;

a pseudo color removing step of reducing a color component generated in said color interpolation step, by controlling a color difference signal converted in said color space conversion step, so that pseudo color components of the image data are reduced;

a thinning step of thinning the image data in which the pseudo color components are reduced in [by] said pseudo color removing step [unit], wherein the thinning process complies with a predetermined compression method; and

a compression step of compressing the image data in which the ratio of the color components are changed in [by] said thinning step and the pseudo color components are reduced in said pseudo color removing step, wherein said compression step compresses the image data according to the predetermined compression method.

wherein said color space conversion step is implemented between said gamma conversion step and said pseudo color removing step, and said thinning step is implemented between said pseudo color removing step and said compression step.

31 (ORIGINAL): The image processing method according to claim 30, wherein in said pseudo color removing step, a value of a pixel of interest is replaced with a substantial median pixel value of peripheral pixels of the pixel of interest.

32 (ORIGINAL): The image processing method according to claim 30, wherein in said pseudo color removing step, filtering is performed by a median value filter or median filter.

33 (ORIGINAL): The image processing method according to claim 30, wherein in said color interpolation step, image data is generated in R, G and B planes.

34 (ORIGINAL): The image processing method according to claim 30, wherein in said color space conversion step, RGB color space is converted to YUV color space.

35 (ORIGINAL): The image processing method according to claim 30, wherein in said color space conversion step, RGB color space is converted to Y, R-Y, B-Y color space.

36 (ORIGINAL): The image processing method according to claim 30, wherein in said color space conversion step, RGB color space is converted to G, R-G, B-G color space.

37 (WITHDRAWN): An image processing method for an image sensing apparatus which includes an image sensing device and generates an image signal corresponding to an image formed on the image sensing device, comprising:

an A/D conversion step of converting an image signal outputted by the image sensing device into a digital signal;

a color interpolation step of performing color interpolation on the digital signal converted in said A/D conversion step and generating image data on a plurality of color planes;

a pseudo color removing step of reducing a color component included in image data, on which color interpolation is performed in said color interpolation step;

a color space conversion step of converting a

color space of the plurality of color planes, where a pseudo color component is reduced in said pseudo color removing step, to a color space of another colorimetric system; and

a compression step of compressing image data where color space is converted in said color space conversion step.

38 (WITHDRAWN): The image processing method according to claim 37, wherein in said pseudo color removing step, a value of a pixel of interest is replaced with a substantial median pixel value of peripheral pixels of the pixel of interest.

39 (WITHDRAWN): The image processing method according to claim 37, wherein in said pseudo color removing step, filtering is performed by a median value filter or median filter.

40 (WITHDRAWN): The image processing method according to claim 37, wherein in said color interpolation step, image data is generated in R, G and B planes.

41 (WITHDRAWN): The image processing method according to claim 37, wherein in said color space conversion step, RGB color space is converted to L*a*b* color space, and filtering is performed to a* and b* signals in said pseudo color removing step.

42 (WITHDRAWN): The image processing method according to claim 37, further comprising a conversion step of converting the signal, processed in said pseudo color removing step, into YUV color space.

43 (WITHDRAWN): The image processing method according to claim 37, wherein in said compression step, image data converted to YUV color space is compressed.

44 (WITHDRAWN): An image processing method for an image sensing apparatus which includes an image sensing device and generates an image signal corresponding to an image formed on the image sensing device, comprising:

an A/D conversion step of converting an image signal outputted by the image sensing device into a digital signal;

a color interpolation step of performing color interpolation on the digital signal converted in said A/D conversion step and generating image data on a plurality of color planes;

a separation step of separating the image data in the plurality of color planes into luminance data and color difference data;

an extraction step of extracting a high frequency component from the luminance data separated in said separation step; and

a pseudo color removing step of reducing a color component generated in said color interpolation step, in accordance with the high frequency component of the luminance data extracted in said extraction step and hue data obtained from the color difference data.

45 (WITHDRAWN): The image processing method according to claim 44, wherein said pseudo color removing step comprises:

a determination step of determining whether or not the high frequency component of the luminance data and the hue data fall within a color range of the pseudo color; and

a step of reducing a value of the color difference data, determined to be within the color range in said determination step.

46 (WITHDRAWN): The image processing method according to claim 44, further comprising a step of removing a high frequency component from a color signal, from which the pseudo color is removed in said pseudo color removing step.

47 (WITHDRAWN): The image processing method according to claim 44, wherein the color range of a pseudo color includes a color area from red to yellow, and a color area from blue to cyan.

48 (WITHDRAWN): An image processing method for an image sensing apparatus which includes an image sensing device and generates an image signal corresponding to an image formed on the image sensing device, comprising:

an A/D conversion step of converting an image signal outputted by the image sensing device into a digital signal;

a color interpolation step of performing color interpolation on the digital signal converted in said A/D conversion step and generating image data on a plurality of color planes;

a color space conversion step of converting a color space of the plurality of color planes to a color space of another colorimetric system;

a separation step of separating image data in the color space of another colorimetric system into luminance data and hue data;

an extraction step of extracting a high frequency component from the luminance data separated in said separation step; and

a pseudo color removing step of reducing a color component generated in said color interpolation step, in accordance with the high frequency component of the luminance data extracted in said extraction step and the hue data.

49 (WITHDRAWN): The image processing method according to claim 48, wherein said pseudo color removing step comprises:

a determination step of determining whether or not the high frequency component of the luminance data and the hue data fall within a color range of the pseudo color; and

a step of reducing a value of the color difference data, determined to be within the color range by said determination step.

50 (WITHDRAWN): The image processing method according to claim 48, wherein in said color space conversion step, the color space is converted to YUV, or Y, R-Y, B-Y, or G, R-G, B-G color space.

51 (WITHDRAWN): The image processing method according to claim 48, further comprising a step of removing a high frequency component from a color signal, from which the pseudo color is removed in said pseudo color removing step.

52 (WITHDRAWN): The image processing step according to claim 48, wherein the color range of a pseudo color component includes a color area from red to yellow, and a color area from blue to cyan.

53 (WITHDRAWN): An image processing method for an image sensing apparatus which includes an image sensing device and generates an image signal corresponding to an image formed on the image sensing device, comprising:

an A/D conversion step of converting an image signal outputted by the image sensing device into a digital signal;

a color interpolation step of performing color interpolation on the digital signal converted in said A/D conversion step and generating image data on a plurality of color planes;

a separation step of separating image data in the plurality of color planes into luminance data and color difference data;

an extraction step of extracting a high frequency component from the luminance data separated in said separation step;

a pseudo color removing step of reducing a color

component generated in said color interpolation step, in accordance with the high frequency component of the luminance data extracted in said extraction step and the hue data obtained from the color difference data; and

an isolated point removing step of removing an isolated pixel from the hue data, from which a pseudo color component is removed in said pseudo color removing step.

54 (WITHDRAWN): The image processing method according to claim 53, wherein said pseudo color removing step comprises:

a determination step of determining whether or not the high frequency component of the luminance data and the hue data fall within a color range of a pseudo color component; and

a step of reducing a value of the color difference data, determined to be within the color range in said determination step.

55 (WITHDRAWN): The image processing method according to claim 53, further comprising a step of removing a high frequency component from a color signal, from which the pseudo color is removed in said pseudo color removing step.

56 (WITHDRAWN): The image processing method according to claim 53, wherein the color range of the pseudo color component includes a color area from red to yellow, and a color area from blue to cyan.

57 (WITHDRAWN): An image processing method for an image sensing apparatus which includes an image sensing device and generates an image signal corresponding to an image formed on the image sensing device, comprising:

an A/D conversion step of converting an image signal outputted by the image sensing device into a digital signal;

a color interpolation step of performing color interpolation on the digital signal converted in said A/D conversion step and generating image data on a plurality of color planes;

a color space conversion step of converting a color space of the plurality of color planes to a color space of another colorimetric system;

a separation step of separating image data in the color space of another colorimetric system into luminance data and hue data;

an isolating point removing step of removing an isolated pixel based on the hue separated in said separation step;

an extraction step of extracting a high frequency component from the luminance data separated in said separation step; and

a pseudo color removing step of reducing a color component generated in said color interpolation step, in accordance with the high frequency component of the luminance data extracted in said extraction step and the hue data from which an isolated pixel is removed in said isolated point removing step.

58 (WITHDRAWN): The image processing method according to claim 57, wherein said pseudo color removing step comprises:

a determination step of determining whether or not the high frequency component of the luminance data and the hue data fall within a color range of the pseudo color; and

a step of reducing a value of the color difference data, determined to be within the color range in said determination step.

59 (WITHDRAWN): The image processing method according to claim 57, wherein in said color space conversion step, the color space is converted to YUV, or Y, R-Y, B-Y, or G, R-G, B-G color space.

60 (WITHDRAWN): The image processing method according to claim 57, further comprising a step of removing a high frequency component from a color signal, from which the pseudo color is removed in said pseudo color removing step.

61 (WITHDRAWN): The image processing method according to claim 57, wherein the color range of the pseudo color component includes a color area from red to yellow, and a color area from blue to cyan.